

10/661,689  
September 21st, 2004  
Declaration Under 37 CFR 1.132

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Appl. No. : 10/661,689  
Inventor : Smith, James D, et al.  
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Examiner : Michener, Jennifer Kolb  
Client Ref: 2003P12080US

Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

**Declaration of James D. Smith**  
**Under 37 CFR 1.132**

Sir:

I, James D. Smith, hereby declare as follows:

1. I have studied 8 years at Aberdeen University, Scotland and Syracuse University, NY. I have worked for Siemens Westinghouse Power Corp. for 35 years in the areas of High Voltage Electrical Insulation Polymers for motors and generators.
2. I am the first named inventor on the pending patent application as well as on the two pieces of prior art cited in the June 22<sup>nd</sup>, 2004 office action, namely 6,238,790 ('790) and 4,224,542 ('541). I have thoroughly read and am intimately familiar with all information disclosed in all of these sources.
3. The '790 patent does not teach the patching resin of the present invention.

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4. If a practitioner of ordinary skill in the art were to read the '790 patent and use the resin taught therein as a patching resin, they would obtain results the same as that described in Fig. 3 of the pending patent application. In other words, the patch would have an interface with the base material (see element 33). There would be no reason to expect a patch that didn't have an interface, and a practitioner of ordinary skill in the art would not be able to produce one without undue experimentation.

5. I and my colleagues spent 5 years trying to develop these low temperature curing high dielectric strength compounds and were challenged to come up with materials that had all the right characteristics for this function; e.g. high dielectric strength, high thermal stability, low dissipation factor, low dielectric constant, good adhesion and low temperature cure. Any other practitioner would require at least this much experimentation and probably more.

6. Therefore, the '790 reference does not teach the present invention, and one of ordinary skill in the art would not be able to perform the present invention without a large degree of experimentation.

7. One of ordinary skill would not use a diluent with the '790 resin.

8. Besides the point that the '790 patent does not teach a patching resin similar to the one in the pending patent application, a person of ordinary skill in the art would not use a diluent with the patching resin described in the '790 patent. Diluents tend to have negative effects on resins with fillers. They interfere with the fillers and can reduce the resin's dielectric strength as well as interfere with their physical properties such as strength and thermal stability. If one of ordinary skill in the art wanted to change the viscosity of the resin taught in the '790 patent they would heat the resin. The addition of a diluent would not be considered a practical choice.

9. In addition, there would be no reason or suggestion to combine the teachings of the '541 patent with the '790 patent. The '541 patent deals with VPI resin that is unfilled

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(i.e. without additives). Though this may seem like a small detail, when dealing with the field of resin additives, filled and unfilled resins behave very differently. The mention of adding a diluent to an unfilled resin in the '541 does not teach the addition of a diluent to a filled resin, such as that in the '790 patent and the pending application. As discussed, it is against common practice to add diluents to filled resins since they tend to have an adverse effect on the fillers. Therefore, one of ordinary skill in the art would not look to the '541 patent and see a diluent use applicable to the '790 patent.

10. Repairing damage is not the same things as thickening.

11. Some of the claims of the pending application are directed towards a method of thickening an insulating tape. The reference in the '790 patent, column 9, lines 55-56 state that the '790 resin can be used as "high dielectric patches for repairing damaged stator coils and solid insulation for phase leads..." This is not the same thing as thickening. An insulating tape does not have to be damaged to be thickened. Although a dent may be thickened, thin spots, due to winding errors or squeezing can also be thickened to improve the insulation around a coil. In the prior art, there is no information presented that would teach someone how to develop a formulation that would possess all of the necessary characteristics required for a coil thickening material (high dielectric strength, high thermal stability, low dissipation factor, low dielectric constant, good adhesion and low temperature cure). To develop such a material required a very significant amount of additional experimentation and testing.

Dated this 21st day of September, 2004

Monroeville, PA

  
James D. Smith